

ABSTRACT

The present invention is a programmable broadband downstream module, comprising, a bus interface, a programmable CPU, and a programmable logic. The bus interface is configured to receive a plurality of control data packets and a plurality of transport packets. The plurality of transport packets include a plurality of video transport packets, a plurality of data transport packets, or a plurality of voice transport packets. The programmable CPU is operatively coupled to the bus interface. Additionally, the programmable CPU is configured to combine the plurality of transport packets to generate a programmable CPU output. The programmable logic is operatively coupled to the programmable CPU and is configured to generate a synchronous output for said plurality of transport packets. In operation, a destination address is provided so that transport packets are submitted to a particular downstream module. The downstream module receives transport packets which are intended for the downstream module. The downstream module processes the transport packets according to the programmable CPU and submits packets to the programmable logic which generates a synchronous output.